

DOCKET NO. 241051/26YA

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF:

Hitoshi KOSUGI

SERIAL NO: 10/673,254

GROUP: 1746

FILED: September 30, 2003

EXAMINER: Husband, Sarah E.

FOR: METHOD AND APPARATUS FOR DISPENSING A RINSE SOLUTION ON
A SUBSTRATE

LETTER

Mail Stop DD
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith is an International Preliminary Examination Report for the Examiner's consideration. The reference(s) listed therein are of record in this patent application.

Respectfully Submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



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From the INTERNATIONAL BUREAU

PCT

NOTIFICATION CONCERNING
TRANSMITTAL OF COPY OF INTERNATIONAL
PRELIMINARY REPORT ON PATENTABILITY
(CHAPTER I OF THE PATENT COOPERATION
TREATY)
(PCT Rule 44bis.1(c))

To:

MAIER, Gregory, J.
Oblon, Spivak, McClelland, Maier & Neustadt, P.C.
1940 Duke Street
Alexandria, VI 22314
ETATS-UNIS D'AMERIQUE

Date of mailing (day/month/year)
13 April 2006 (13.04.2006)

Applicant's or agent's file reference
241051WO

IMPORTANT NOTICE

International application No.
PCT/US2004/018927

International filing date (day/month/year)
09 July 2004 (09.07.2004)

Priority date (day/month/year)
30 September 2003 (30.09.2003)

Applicant

TOKYO ELECTRON LIMITED et al

The International Bureau transmits herewith a copy of the international preliminary report on patentability (Chapter I of the Patent Cooperation Treaty)

RECEIVED

APR 17 2006

OBLON, SPIVAK, McCLELLAND
MAIER & NEUSTADT, P.C.

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.+41 22 740 14 35

Authorized officer

Yolaine Cussac

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference 241051WO	FOR FURTHER ACTION	See item 4 below
International application No. PCT/US2004/018927	International filing date (<i>day/month/year</i>) 09 July 2004 (09.07.2004)	Priority date (<i>day/month/year</i>) 30 September 2003 (30.09.2003)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant TOKYO ELECTRON LIMITED		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 *bis*.1(a).

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input checked="" type="checkbox"/> | Box No. VIII | Certain observations on the international application |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Date of issuance of this report 03 April 2006 (03.04.2006)
Facsimile No. +41 22 740 14 35	Authorized officer <div style="text-align: center; font-weight: bold; font-size: 1.2em;">Yolaine Cussac</div>
Telephone No. +41 22 338 70 80	

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

REC'D 30 NOV 2005

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WIPO

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To:
GREGORY J. MAIER
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) **28 NOV 2003**

FOR FURTHER ACTION

See paragraph 2 below

Applicant's or agent's file reference

241051WO

International application No.

PCT/US04/18927

International filing date (day/month/year)

09 July 2004 (09.07.2004)

Priority date (day/month/year)

30 September 2003 (30.09.2003)

International Patent Classification (IPC) or both national classification and IPC

IPC(7): B08B 3/00, 3/12, 6/00 and US Cl.: 134/178, 172

Applicant

TOKYO ELECTRON LIMITED

1. This opinion contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|--|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the opinion |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input checked="" type="checkbox"/> | Box No. VIII | Certain observations on the international application |

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Date of completion of this opinion

04 October 2005 (04.10.2005)

Authorized officer

Michael E. Barr

Telephone No. (571) 272-8387

Form PCT/ISA/237 (cover sheet) (April 2005)

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US04/18927

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:

☒ the international application in the language in which it was filed

☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ on paper

☐ in electronic form

c. time of filing/furnishing

☐ contained in the international application as filed.

☐ filed together with the international application in electronic form.

☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US04/18927

Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>NONE</u>	YES
	Claims <u>1-27</u>	NO
Inventive step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-27</u>	NO
Industrial applicability (IA)	Claims <u>1-27</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and explanations:

Claims 1-27 lack novelty under PCT Article 33(2) as being anticipated by Matsuno (US Patent Application Publication 2003/0005948 A1).

Matsuno discloses a nozzle assembly dispensing rinse solution on a substrate comprising a first nozzle array and a second nozzle array each having a control valve (paragraph 60-62; Figs. 8A, 8B, 9A, 9B, 10A, 10B, and 12). Matsuno also discloses a controller controlling the valves and therefore controlling fluid flow (Fig. 11, Item 22) and the solution supply connected to both valves and also individual solution sources connected to each of the valves. In Fig. 12, it shows the relationship between the fluid source and the multiple valve connections. Whether or not the fluid is a rinse solution is not given weight because in apparatus claims, the structural limitations are given weight and not the intended use of these limitations as long as it is possible to perform the intended use. Matsuno also discloses using a flow meter and flow control valves (Fig. 12, Items 27 and 28) on both nozzle systems. Matsuno further discloses rotating the substrate, the structure including a substrate holding members and motor to drive the structure (Fig. 1, Item 8; paragraph 45, 49). Matsuno also describes using pure water, which deionized water would be a type of pure water and therefore would be anticipated by Matsuno. Matsuno discloses that the amount of liquid can be controlled as desired (paragraph 67). Matsuno further discloses using a sealed shell (chamber) for placement of the substrate (paragraph 47). The apparatus disclosed by Matsuno would also be capable of performing a method of controlling the operation of the valves to deliver to specified nozzles at certain points in time. The control unit, which is described by Matsuno, would inherently perform these functions and also begin and end the rotation of the substrate.

Claims 1-27 lack an inventive step under PCT Article 33(3) as being obvious over Katakabe (US Patent Application Publication 2003/0168089 A1).

Katakabe discloses a method and apparatus for cleaning substrates consisting of a substrate holder and rotating the substrate, a central nozzle and an outer nozzle each of which can contain a plurality of nozzles. Katakabe also discloses varying the addition of fluids whether by time or particular substance (entire document; see specifically paragraphs 40, 16-49, 57-69; Figures 1, 2, 11). Although valves are not mentioned in Katakabe, they are well known in the art and in order to control the fluid flows coming from the nozzles, it would be obvious to one of ordinary skill in the art to have valves on the fluid lines.

Claims 1-27 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US04/18927

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the questions whether the claims are fully supported by the description, are made:

Claim 25 is objected to under PCT Rule 66.2(a)(v) as lacking clarity under PCT Article 6 because claim 25 is indefinite for the following reason(s): refers to "the first nozzle assembly" but is not dependent on any other claims.